

Note

Hostplant record for *Eunica bechina magnipunctata* (Nymphalidae) and observations on oviposition sites and immature biology

The genus *Eunica* Hübner, 1819 has 45 species distributed throughout the Neotropical region. The vast majority are found in the Andean Region and in the Amazon Valley (Jenkins 1990). The current knowledge on hostplant utilization and immature biology of *Eunica* is restricted to seven species and the available information is incomplete. Plants in the families Euphorbiaceae, Burseraceae and Rutaceae are the most frequently recorded foodplants for *Eunica* (Barcant 1970; DeVries 1986, 1987; Ackery 1988; Jenkins 1990; and citations therein). *Eunica bechina magnipunctata* Talbot, 1928 occurs in Southeast Brazil (Jenkins 1990), where it is common in the cerrados (savanna-like vegetation) of the State of São Paulo (Oliveira 1988). This study was carried out in a cerrado area in the county of Itirapina (21°15'S, 47°49'W), São Paulo. The vegetation consists of a scrub of shrubs and trees, which is the cerrado *sensu stricto* of Goodland (1971).

Eggs and larvae of *E. bechina magnipunctata* were observed on shrubs and trees of *Caryocar brasiliense* Camb. (Caryocaraceae), one of the most common plant species in the cerrado of Itirapina (Oliveira 1988). The eggs are yellowish, conical, and flattened at the top; bear 12-14 longitudinal ridges and 10-12 transversal ones; average 0.76 mm high (sd=0.031 mm; n=15) and 0.72 mm diameter (sd=0.057; n=15). The preference for oviposition site within the hostplant was estimated through a census of 27 shrubs of *Caryocar* (35-150 cm tall). The eggs (n=141) are laid singly on young leaves (87%), shoot tips (10%), petiole (1%), stem (1%) and mature leaves (1%) of *C. brasiliense*. Although *Eunica* was seen on *Caryocar* from September to January (rainy season), the highest infestation level occurs between September and October when the majority of the leaves are still young, soft, and red in color. The vertical distribution of the eggs within the hostplant varied from 3 to 150 cm above ground ($x=60.5 \pm 44.8$ cm; n=141). Caterpillars were observed feeding preferentially on young leaves of *Caryocar*. Early instar larvae of *E. bechina* construct frass chains, as already described for other Nymphalidae (Casagrande & Mielke 1985; Muyschondt 1976; DeVries 1987; Aiello 1991). *Caryocar brasiliense* bears extrafloral nectaries on the outer surface of the sepals and ants are the most frequent visitors to the plant in the cerrado (Oliveira 1988; Oliveira & Brandão 1991). Foraging ants may encounter *Eunica* caterpillars when these are feeding on *Caryocar* leaves, occasionally resulting in the removal of the larvae from the hostplant. On the other hand ant visitors were never observed climbing on the frass chains constructed by the larvae, a fact suggesting that this structure may serve as a protective refuge against ant predation (Freitas & Oliveira, in preparation).

Acknowledgements. We are grateful to K. S. Brown, Jr. for identifying the butterfly, and to R. B. Francini and C. F. Klitzke for reviewing the manuscript. The study was supported by research grants from the Conselho Nacional de Desenvolvimento Científico e Tecnológico, the Fundação de Amparo à Pesquisa do Estado de São Paulo, and the Fundo de Apoio ao Ensino e Pesquisa da UNICAMP.

Literature Cited

- ACKERY, P. R. 1988. Hostplants and classification: a review of nymphalid butterflies. *Biol. J. Linn. Soc.* 33: 95-203.
- AIELLO, A. 1991. *Adelpha ixia heucas*: immature stages and position within *Adelpha* (Nymphalidae). *J. Lepid. Soc.* 45: 181-187.
- BARCANT, M. 1970. Butterflies of Trinidad and Tobago. Collins, London.
- CASAGRANDE, M. M. & O. H. H. MIELKE. 1985. Estágios imaturos de *Agrias claudina claudianus* Staudinger (Lepidoptera, Nymphalidae, Charaxinae). *Revta. bras. Ent.* 29: 139-142.
- DEVRIES, P. J. 1986. Hostplant records and natural history notes on Costa Rican butterflies (Papilionidae, Pieridae & Nymphalidae). *J. Res. Lep.* 24: 290-333.
- . 1987. The butterflies of Costa Rica and their natural history. Princeton University Press, Princeton, New Jersey.
- GOODLAND, R. 1971. A physiognomic analysis of the cerrado vegetation of central Brazil. *J. Ecol.* 59: 411-419.
- JENKINS, D. W. 1990. Neotropical Nymphalidae VIII. Revision of *Eunica*. *Bull. Allyn Mus.* 131: 1-177.
- MUYSHONDT, A. 1976. Notes on the life cycle and natural history of butterflies of El Salvador. VII. *Archaeoprepona demophon centralis* (Nymphalidae). *J. Lepid. Soc.* 30: 23-32.
- OLIVEIRA, P. S. 1988. Sobre a interação de formigas com o pequí do cerrado, *Caryocar brasiliense* Camb. (Caryocaraceae): o significado ecológico de nectários extraflorais. Doctor in Science Thesis, Universidade Estadual de Campinas, São Paulo.
- OLIVEIRA, P. S. & C. R. F. BRANDÃO. 1991. The ant community associated with extrafloral nectaries in the Brazilian cerrados. In: C. R. Huxley & D. F. Cutler (eds.), *Interactions between ants and plants*. Oxford University Press, Oxford. pp. 198-212.

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